

Work Order ID 58798

Wednesday, May 19, 2010 9:18:57 AM

Page 1

Item ID: D350-636-011

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube LH

Start Date: 5/18/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 5/25/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

H

Date: 5-19

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2750

Rev F

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-011 CHG 005

810106/10

Def CL 10/06/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NumberDraw
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QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Mark cut line on aft end of D2600-3-Bent using Jig DT 8150. Cut to length as per Dwg D2750. Deburr end

2-Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details).Drill using drill Jig DT8150 & DT8863.

3- Mark fwd end for cutting using Drill Jig DT 8150 & DT8863 and cut as per dwg D2750.Deburr.

4- Drill fwd step holes using DT9616. Ensure proper positioning.

5- drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500"

6- locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting

7-Open up holes for Detail B to 0.375" (4 holes per side)and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750 .Open up holes for ground handling and detail C to 0.500" (8 holes per side)

8-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

9-Open up holes of Detail A to 0.297" (total of 2 holes per side)

10-Weld D2744 Cap as per Dwg D2750 and QSI 004.Fill grooves in bend left from bending as per QSI 004

A/R ☐ ☐ Aluminum Rod☐ M112860

86 10/05/26

DP 10-5-25

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QtyReject
NumberInsp.
Stamp

11-Grind welds flush as per Dwg D2750

12- Scribe batch# inside per dwg D2750

H

10/5/26

120



QC

Quality Control

QC10- Inspect visual per QS1004- ground welds

0.00

Memo

0.00

8 10/5/26

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8 10/5/26

VC

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NumberDraw
Rev.Plan
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QtyReject
QtyReject
NumberInsp.
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1 11/19/126

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 0 BE 19/05/26

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Sequence ID/
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Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Open up holes of Detail C and ground handling to 0.625" (total of 8 holes per side)
as per dwg D2750.

2-Open up holes of Detail B to 0.750" (total of 4 holes per side)
as per dwg D2750.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750
(welding instructions on sheet 8)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐☐☐ Sikaflex-291 batch: M113415 ☐☐☐
exp. date: 12/11/20

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004
(welding instructions on sheet 8)

A/R ☐☐☐ Aluminum Rod batch: M112860

9- At section AJ-AJ drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D2750

C. m 10-05-31

①

M 6/5/26

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D2750

12-Debur holes

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

8 w/lost 31

A.M 10-05-31 @

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8 w/lost 31

71

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

① BK 10.6-1

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: 2:00pm
OVEN TEMPERATURE: 320°C
FINISH TIME: 2:30pm

⇒ 10/06/01

1 ①

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

① BK 10.6-7.

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	HandFinishing	0.00							
	HandFinish								
Hand Finishing	Memo 1- Install inserts as per Dwg D2750	0.00				<u>ml</u>	<u>10</u>	<u>06</u>	<u>04</u> ①
230	HandFinishing	0.00							
	HandFinish								
Hand Finishing	Memo 1-Inspect for Foreign Objects 2-Spray inside of tube with "LPS 3" batch: _____ <u>N/A ml 10 06 08</u> 3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750 SIKA FLEX 241 BATCH: <u>113435</u> EXP DATE: <u>10/11</u> 4-assemble o-ring to plug as per dwg D3492 and apply o-ring lube A/R 55-o-ring lube batch: <u>114189</u> 5-Coat all exposed fasteners with "LPS Procyon" batch: <u>104251</u>	0.00				<u>ml</u>	<u>10</u>	<u>06</u>	<u>08</u> ①

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Reference:

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8/10/06/08

⑧

250

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

10-6-95

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

8/10/06/10

⑧

*****ensure antiseize is on AN8C21A bolts*****

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Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
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DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270

0.00



Packaging

Packaging

Memo

0.00

Packaging

Package as per PPP D350-636-011

Rev H

10-6-10

EP

280

0.00



QC

QC21- Final Inspection - Work Order Release

Memo

0.00

Quality Control

10/06/10

MF
10-6-10

B58798

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Picklist Print

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Work Order ID: 58798

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: ☐ 02.09.25 ☐ Rearranged procedure steps ☐ KJ ☐
IPP Rev: J 06-03-23 As per Rev D JLM
IPP Rev: K 06-07.13 As per dsi9343 EC
IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 5/18/2010

Required Date: 5/25/2010

Start Qty: 1.00

Required Qty: 1.00

D2594-3

Manufactured No

230

Each

359.0000

8



O-Ring, 205 Skidtube

Location

Loc Qty

Loc Code

FP

359

55546

19

58191

340

D2744

Manufactured No

110

Each

28.0000

1



Cap

Location

Loc Qty

Loc Code

LG

28

47488

10

51922

18

D2600-3-BENT

Manufactured No

110

Each

2.0000

1



Extrusion Bent

Location

Loc Qty

Loc Code

LG

2

55462

1

57538

1

D2743

Manufactured No

160

Each

114.0000

8



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

114

50281

10

52310

24

57953

80

MM/ 10.06.08

8

BE 10/25/26

10-5-25

8 BE 10/25/28

W/O:		WORK ORDER CHANGES					
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IPP Rev: J 06-03-23 As per Rev D JLM
IPP Rev: K 06-07.13 As per dsi9343 EC
IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D2739

Manufactured No

160 Each

1.0000

1



350 I Beam



B58213 ① 4/15/26

Location

Loc Qty

Loc Code

LG

1

57948

1

D3490-3

Manufactured No

160 Each

31.0000

4



Cross Bolt Spacer



Location

Loc Qty

Loc Code

LG

31

57918

31

D3490-1

Manufactured No

160 Each

25.0000

4



Cross Bolt Spacer



4 SE 10/05/28

Location

Loc Qty

Loc Code

LG

25

57723

25

ALS4-1032-225

Purchased No

220 Each

7,062.000

38



Insert



4 SE 10/05/28

Location

Loc Qty

Loc Code

PK011

7062

110768 ✓

7062

38 M/L 10.06.08

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Shop Packet Print

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IPP Rev: J 06-03-23 As per Rev D JLM

IPP Rev: K 06-07.13 As per dsi9343 EC

IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D3492-041

Manufactured No

230

Each

98.0000

8



Plug Assembly

Location

Loc Qty

Loc Code

FP013

98

57915 ✓

38

58180

60

D3793-3

Manufactured No

230

Each

11.0000

1



Wearshoe

Location

Loc Qty

Loc Code

FP19

11

57947 ✓

11

AN8C35A

Purchased No

230

Each

56.0000

1



BOLT

Location

Loc Qty

Loc Code

FP

6

110847 ✓

6

ST346

50

114442

50

D3793-1

Manufactured No

230

Each

10.0000

1



Wearshoe

Location

Loc Qty

Loc Code

FP18

10

56300 ✓

1

57945 ✓

9

Wednesday, May 19, 2010 9:19:01 AM

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IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D3488-041

Manufactured No

230

Each

29.0000

1



Blade Fitting Assembly, LH

Location

Loc Qty

Loc Code

FP

19

53915

19

FP007

10

56052 ✓

10

D3794-3

Manufactured No

230

Each

14.0000

1



Gasket

Location

Loc Qty

Loc Code

FP18

14

56066 ✓

14

AN6C44A

Purchased No

230

Each

101.0000

4



BOLT

Location

Loc Qty

Loc Code

FG

2

103964

2

ST344

99

111649

2

114455 ✓

47

114653

50

MM 10.06.08

MM 10.06.08

MM 10.06.08

Wednesday, May 19, 2010 9:19:01 AM

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Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 5

Work Order ID: 58798

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 5/18/2010

Required Date: 5/25/2010

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased No 230 Each 41.0000 1



NUT

Location	Loc Qty	Loc Code
ST303	41	
113845 ✓	11	
114523	30	

MM 10-06-08

D3536-25

Manufactured No 230 Each 6.0000 1



Gasket

Location	Loc Qty	Loc Code
FP12	6	
57944 ✓	6	

MM 10-06-08

D3631-1

Manufactured No 230 Each 206.0000 8



Washer

Location	Loc Qty	Loc Code
ST076	206	
52693	206	

MM 10-06-08

D3791-1

Manufactured No 230 Each 5.0000 1



Wearplate

Location	Loc Qty	Loc Code
FP17	5	
56299 ✓	5	

MM 10-06-08

AN960C10L

Purchased No 230 Each 0.0000 38



washer

NAS 1149C0332R

114341

38.

MM 10-06-08

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Picklist Print

Wednesday, May 19, 2010 9:19:01 AM

Page 6

Work Order ID: 58798

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I ☐ 02.09.25 ☐ Rearranged procedure steps ☐ KJ ☐
IPP Rev: J 06-03-23 As per Rev D JLM
IPP Rev: K 06-07.13 As per dsi9343 EC
IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 5/18/2010

Required Date: 5/25/2010

Start Qty: 1.00

Required Qty: 1.00

D2745 Manufactured No 230 Each 146.0000 8



Bushing

Location	Loc Qty	Loc Code
ST023	146	
52311	69	
57914	77	

ml 10-06-08

AN3C5A Purchased No 230 Each 453.0000 34



Bolt

Location	Loc Qty	Loc Code
ST350	325	
114330	125	
114523	200	
ST351	128	
113121	10	
114108	45	
114181	73	

ml 10-06-08

34.

D3537-1 Manufactured No 230 Each 24.0000 3



Wearpad

Location	Loc Qty	Loc Code
FP	1	
55465	1	
FP17	23	
57256	23	

ml 10-06-08

3

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Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, May 19, 2010 9:19:01 AM

Page 7

Work Order ID: 58798

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 5/18/2010

Required Date: 5/25/2010

Start Qty: 1.00

Required Qty: 1.00

AN960C816L

Purchased No 230 Each 106.0000 1



WASHER

Location	Loc Qty	Loc Code
ST348	106	
110584	100	
111424	6	

ml 10-06-08

D3492-043

Manufactured No 230 Each 61.0000 8



Plug Assembly

Location	Loc Qty	Loc Code
FP	2	
54682	2	
FP013	59	
57916	59	

ml 10-06-08

AN3C6A

Purchased No 230 Each 565.0000 4



BOLT

Location	Loc Qty	Loc Code
ST351	565	
111982	565	

ml 10-06-08

NAS1611-013

Purchased No 230 Each 223.0000 8



O-RING

Location	Loc Qty	Loc Code
FP	223	
114451	185	
114496	38	

ml 10-06-08

Wednesday, May 19, 2010 9:19:02 AM

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Page 7

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, May 19, 2010 9:19:02 AM

Page 8

Work Order ID: 58798



Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Start Date: 5/18/2010

Required Date: 5/25/2010

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ

Start Qty: 1.00

Required Qty: 1.00

IPP Rev: J 06-03-23 As per Rev D JLM

IPP Rev: K 06-07.13 As per dsi9343 EC

IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

D3535-25

Manufactured No

230

Each

13.0000

1



Wearshoe

Location

Loc Qty

Loc Code

FP18

13

57943 ✓

13

D3794-1

Manufactured No

230

Each

32.0000

1



Gasket

Location

Loc Qty

Loc Code

FP010

26

57942

26

FP014

6

57537 ✓

6

MS21043-6

Purchased No

230

Each

826.0000

4



NUT

Location

Loc Qty

Loc Code

ST301

826

112314 ✓

826

D3493-1

Manufactured No

260

Each

33.0000

2



Washer

Location

Loc Qty

Loc Code

ST065

33

57825

33

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Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Page 9

Work Order ID: 58798

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Comments: IPP Rev: I 02.09.25 Rearranged procedure steps KJ
 IPP Rev: J 06-03-23 As per Rev D JLM
 IPP Rev: K 06-07.13 As per dsi9343 EC
 IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Date: 5/18/2010

Required Date: 5/25/2010

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased No

260 Each

41.0000

1



NUT

Location

Loc Qty

Loc Code

ST303

41

113845

11

114523

30

AN8C21A

Purchased No

260 Each

113.0000

2



BOLT

Location

Loc Qty

Loc Code

ST345

113

111605

23

113558

50

114653

40

AN960C816L

Purchased No

260 Each

106.0000

1



WASHER

Location

Loc Qty

Loc Code

ST348

106

110584

100

111424

6

D3672-1

Manufactured No

230 Each

1,375.000

4



Phenolic Washer

Location

Loc Qty

Loc Code

ST077

1375

51674

375

52505

1000

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Page 9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 10

Work Order ID: 58798



Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Start Date: 5/18/2010

Required Date: 5/25/2010

Comments:

IPP Rev: I 02.09.25 Rearranged procedure steps KJ

IPP Rev: J 06-03-23 As per Rev D JLM

IPP Rev: K 06-07.13 As per dsi9343 EC

IPP Rev: L 07-07-28 Added SS Wearplates (Rev E) JLM Verified By: EC

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

260

Each

28.0000

1



Blade, 350 Skidtube



10-6-9 SP

Location

Loc Qty

Loc Code

ST466

28

55905

28

D3532-1

Manufactured No

260

Each

25.0000

2



Spacer



10-6-9 SP

Location

Loc Qty

Loc Code

ST068

25

52321

25

D3672-13

Purchased No

260

Each

894.0000

2



Phenolic Washer



10-6-9 SP

Location

Loc Qty

Loc Code

ST077

894

54363

894

Wednesday, May 19, 2010 9:19:02 AM

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Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

5

4

3

2

1

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C4A	BOLT
1	1	1	1	AN6C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

SHOP COPY
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ENGINEERING
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 38798
BS 10-5-19

RELEASED
68-07-22

GENERAL NOTES:

- 1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES (ϕ 0.297) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL Δ
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL Δ

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/3 REPLACES D3535-13/-35 (ZN B8-1); ADD D3781-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 05-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	<u>RA</u>	DART AEROSPACE USA, INC.	
DRAWN	<u>RA</u>	PORT HADLOCK, WA	
CHECKED	<u>RA</u>	DRAWING NO.	REV. F
MFG. APPR.	<u>RA</u>	D2750	SHEET 1 OF 11
APPROVED	<u>RA</u>	TITLE	SCALE
DE APPR.	<u>RA</u>	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

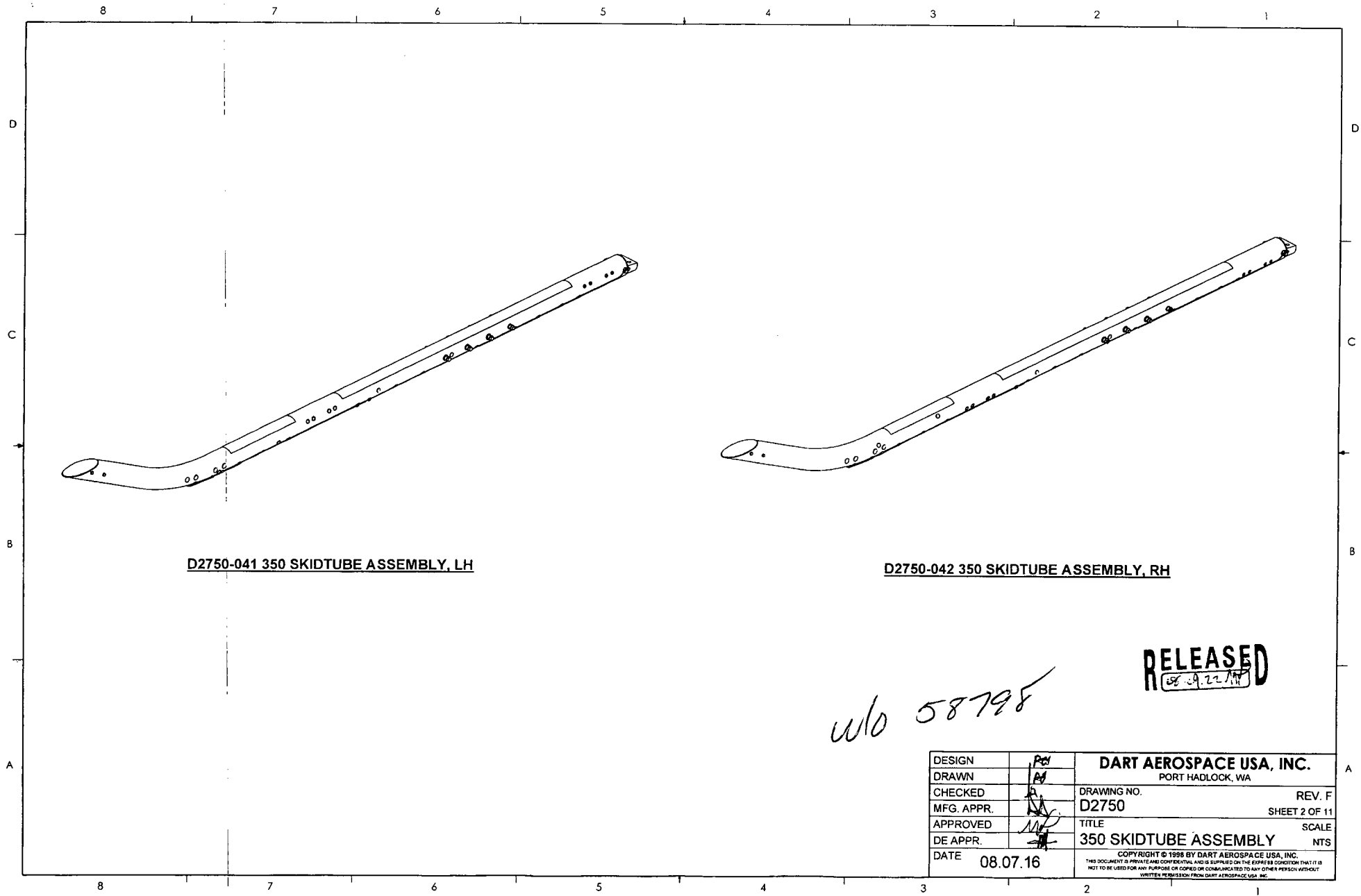
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-041 350 SKIDTUBE ASSEMBLY, LH

D2750-042 350 SKIDTUBE ASSEMBLY, RH

W/O 58795

RELEASED
 1987-09-22/11

DESIGN	PC	DART AEROSPACE USA, INC.	
DRAWN	PA	PORT HADLOCK, WA	
CHECKED	SA	DRAWING NO.	REV. F
MFG. APPR.	MA	D2750	SHEET 2 OF 11
APPROVED	MA	TITLE	SCALE
DE APPR.	MA	350 SKIDTUBE ASSEMBLY	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D2750-043 350 SKIDTUBE ASSEMBLY, LH

D2750-044 350 SKIDTUBE ASSEMBLY, RH

W/O 58798

RELEASED
68-9-22/M

DESIGN	LD	DART AEROSPACE USA, INC.	
DRAWN	LD	PORT HADLOCK, WA	
CHECKED	LD	DRAWING NO.	REV. F
MFG. APPR.	LD	D2750	SHEET 3 OF 11
APPROVED	LD	TITLE	SCALE
DE APPR.	LD	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

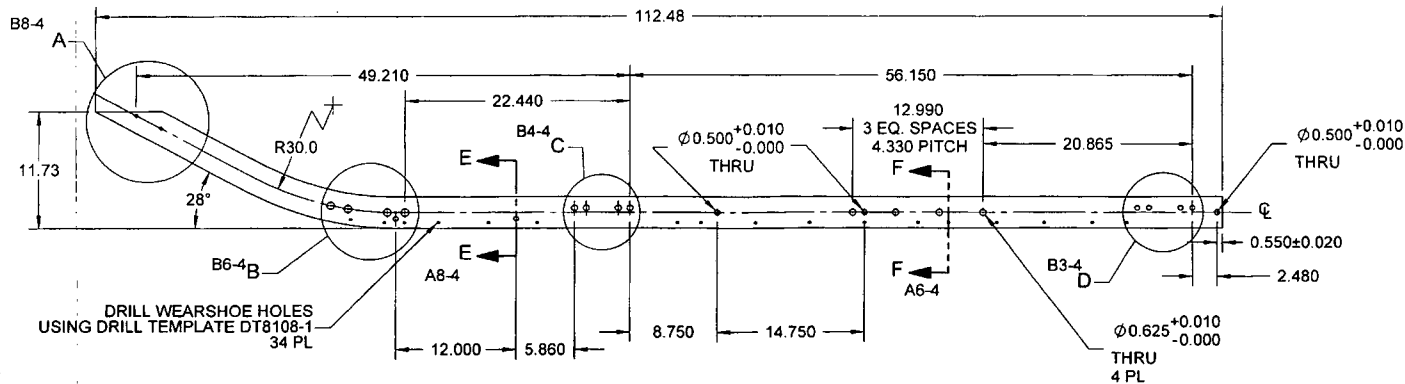
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

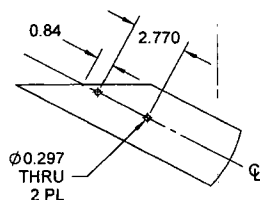
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

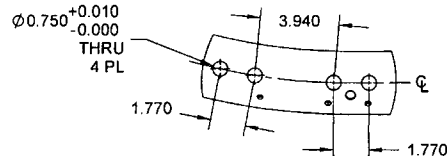
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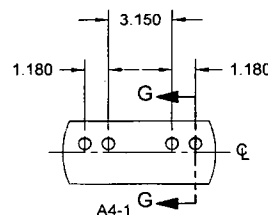
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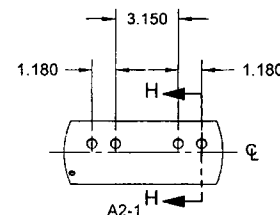
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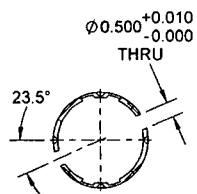
DETAIL B
SCALE 2X



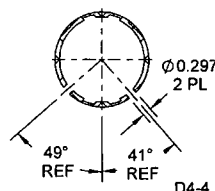
DETAIL C
SCALE 2X



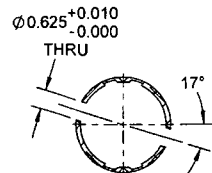
DETAIL D
SCALE 2X



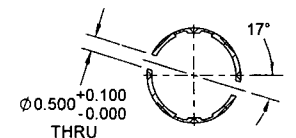
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

W/0 58798

RELEASED
06 09 22 1987

DESIGN		DART AEROSPACE USA, INC.	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG APPR		D2750	SHEET 4 OF 11
APPROVED		TITLE	SCALE
DE APPR		350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

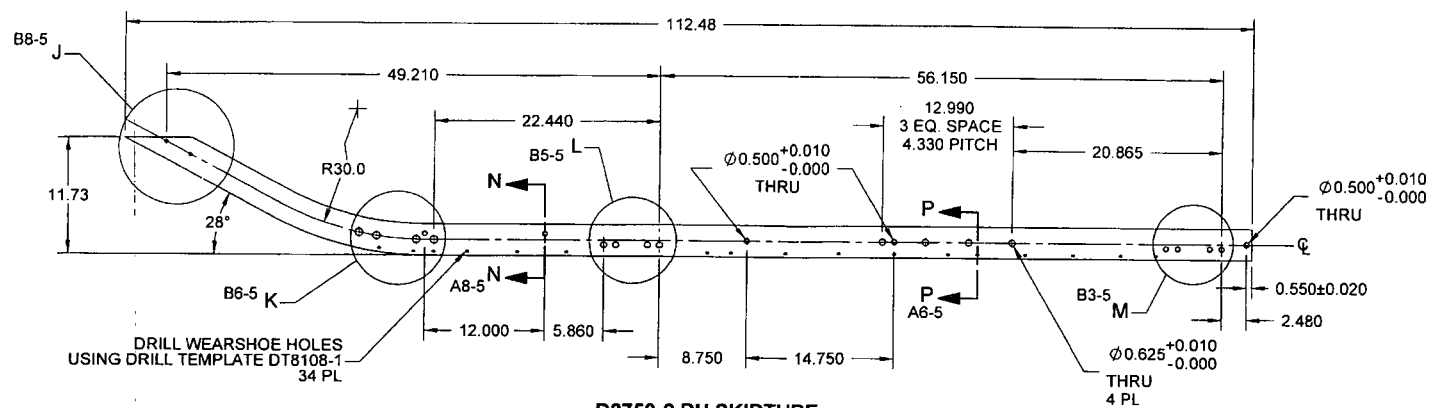
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

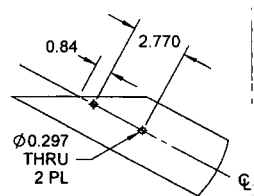
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

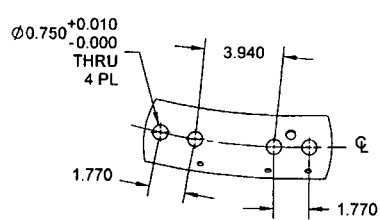
NOTE: Date & initial all entries



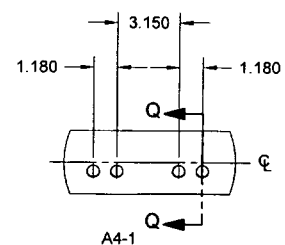
D2750-2 RH SKIDTUBE



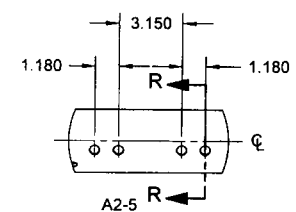
DETAIL J
SCALE 2X



DETAIL K
SCALE 2X

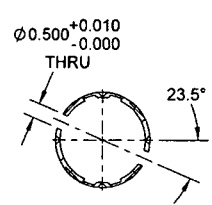


DETAIL L
SCALE 2X

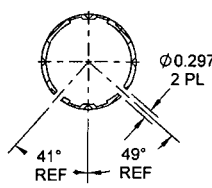


DETAIL M
SCALE 2X

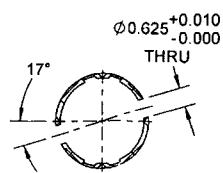
W1058796



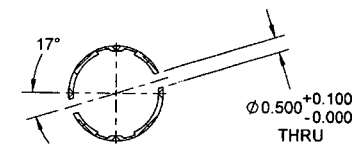
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

RELEASED

DESIGN	REV	DART AEROSPACE USA, INC.	
DRAWN	REV	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 5 OF 11
APPROVED		TITLE	SCALE
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

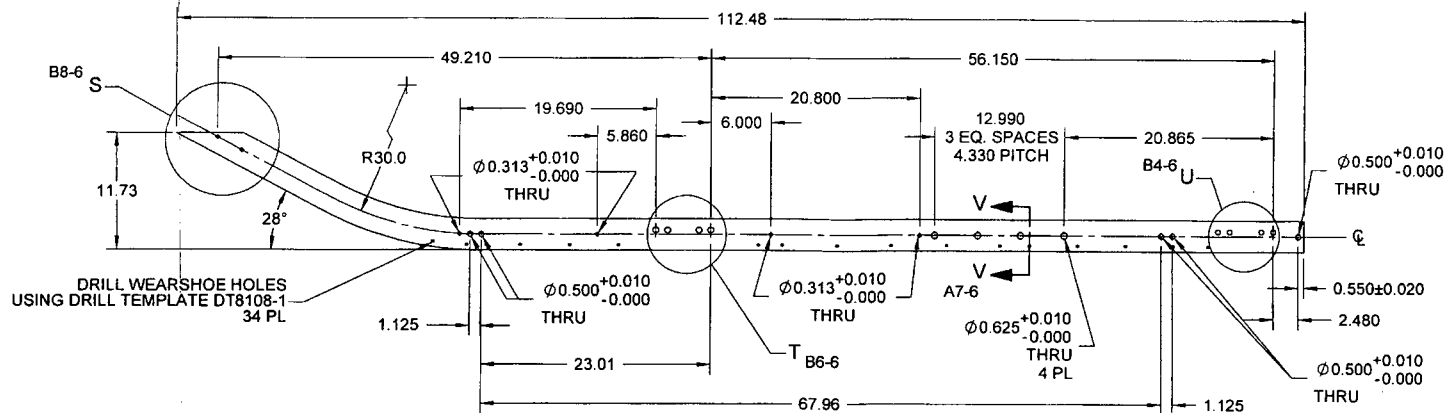
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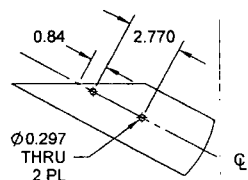
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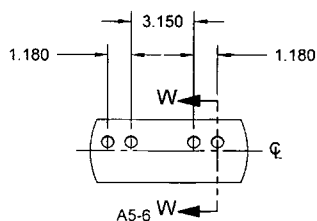
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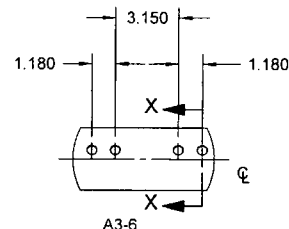
D2750-3 LH SKIDTUBE



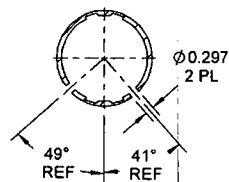
DETAIL S
SCALE 2X



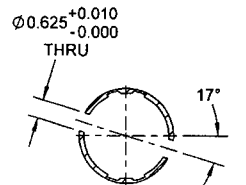
DETAIL T
SCALE 2X



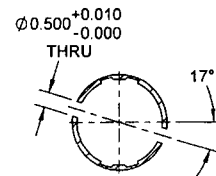
DETAIL U
SCALE 2X



SECTION V-V
SCALE 3X, 17 PL



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

W/0 58798

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DESIGN		DART AEROSPACE USA, INC.
DRAWN		PORT HADLOCK, WA
CHECKED		DRAWING NO. D2750
MFG. APPR.		REV. F
APPROVED		SHEET 6 OF 11
DE APPR.		TITLE 350 SKIDTUBE ASSEMBLY
DATE	08.07.16	SCALE NTS

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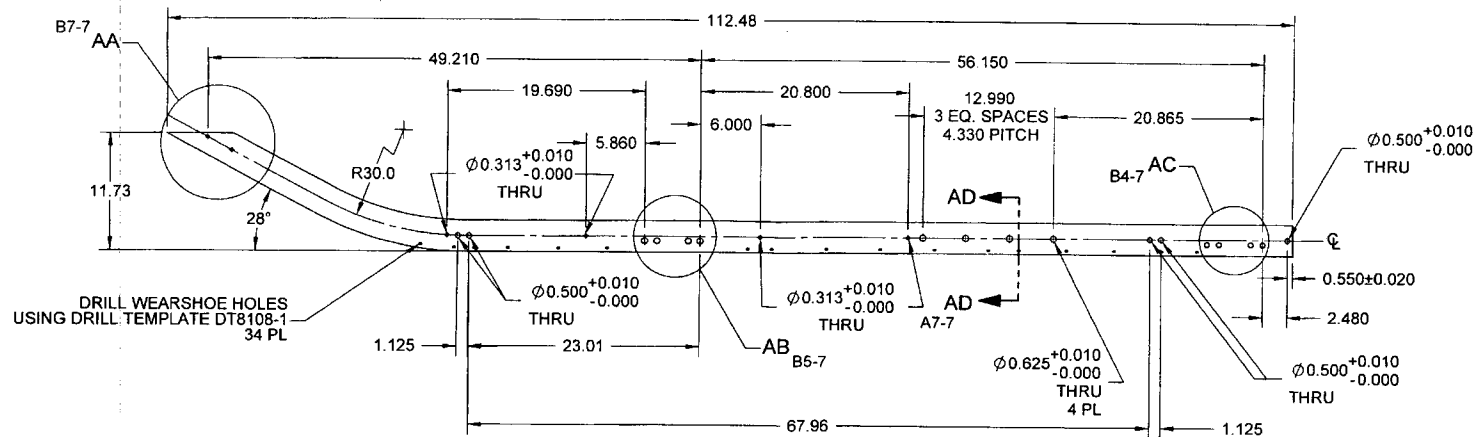
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

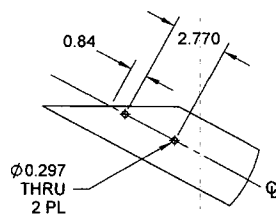
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

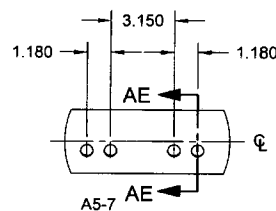
NOTE: Date & initial all entries



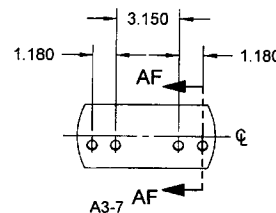
D2750-4 RH SKIDTUBE



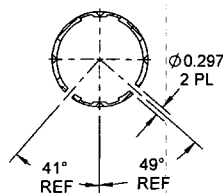
DETAIL AA
SCALE 2X



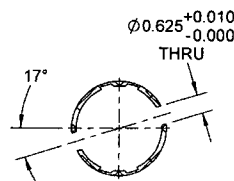
DETAIL AB
SCALE 2X



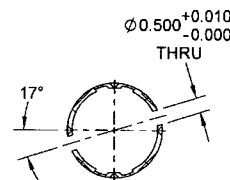
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

W1038798

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DESIGN	PA	DART AEROSPACE USA, INC.	
DRAWN	PA	PORT HADLOCK, WA	
CHECKED	PA	DRAWING NO.	REV. F
MFG. APPR.	PA	D2750	SHEET 7 OF 11
APPROVED	PA	TITLE	SCALE
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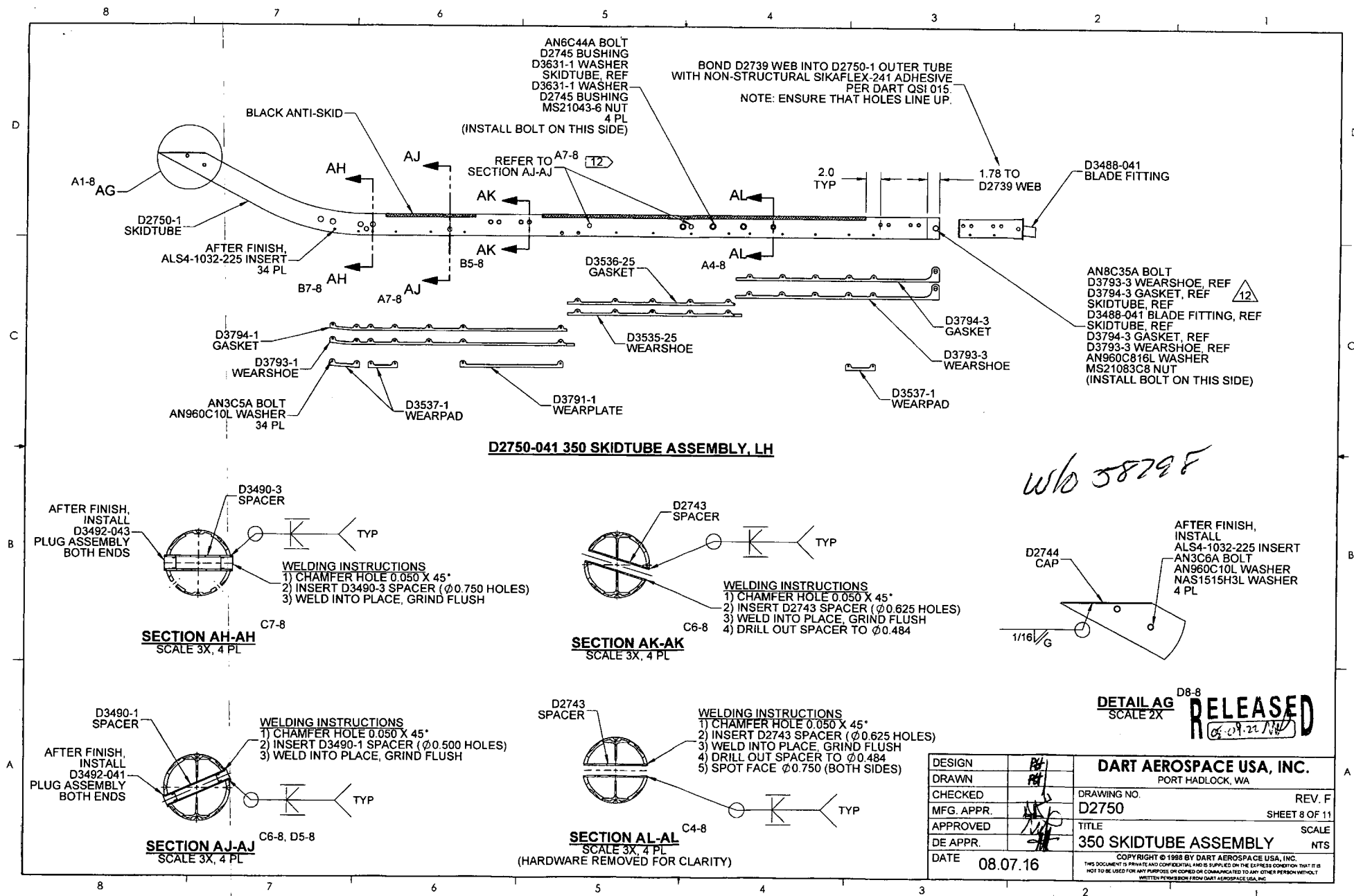
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

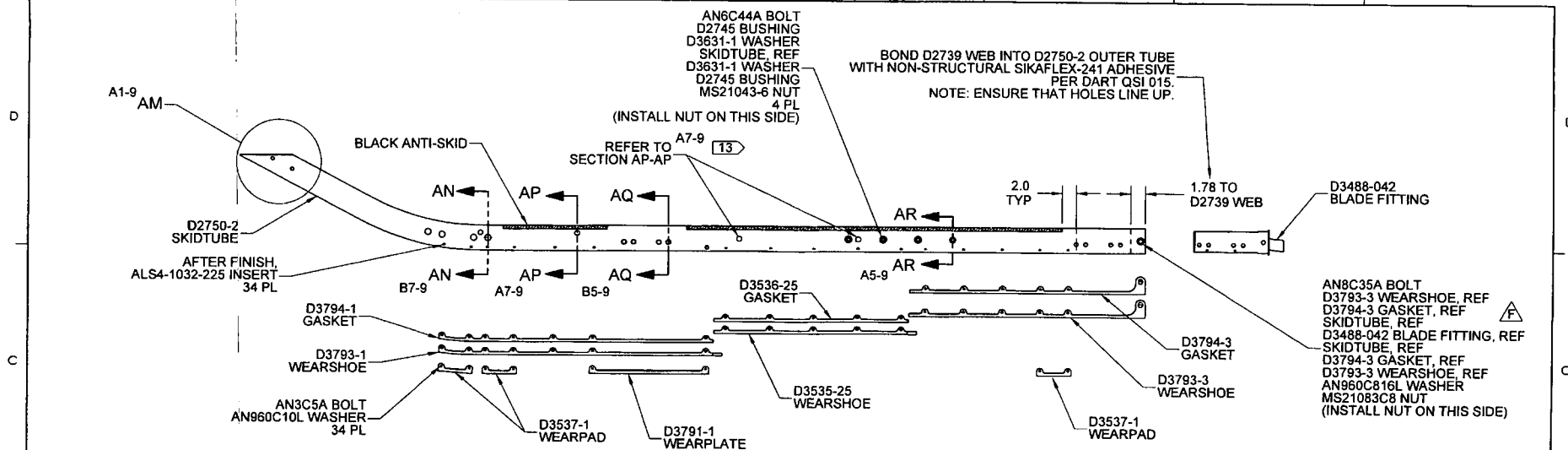
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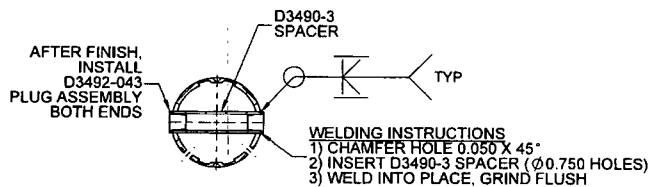
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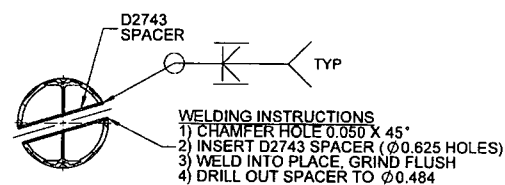
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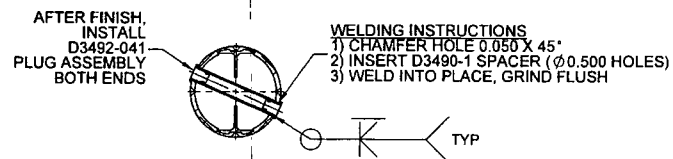
D2750-042 350 SKIDTUBE ASSEMBLY, RH



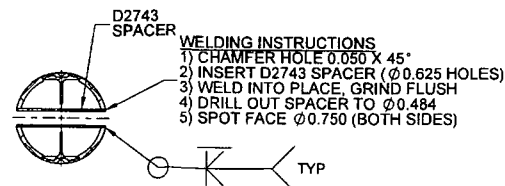
SECTION AN-AN
SCALE 3X, 4 PL



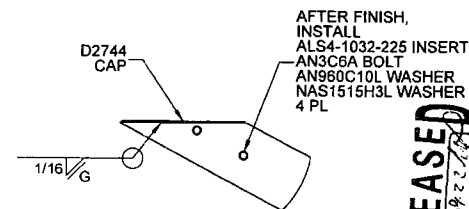
SECTION AQ-AQ
SCALE 3X, 4 PL



SECTION AP-AP
SCALE 3X, 4 PL



SECTION AR-AR
SCALE 3X, 4 PL
(HARDWARE REMOVED FOR CLARITY)



DETAIL AM
SCALE 2X

DESIGN	PH	DART AEROSPACE USA, INC.	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 9 OF 11
APPROVED	MD	TITLE	SCALE
DE APPR.	MD	350 SKIDTUBE ASSEMBLY	NTS
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28 JUN 2017

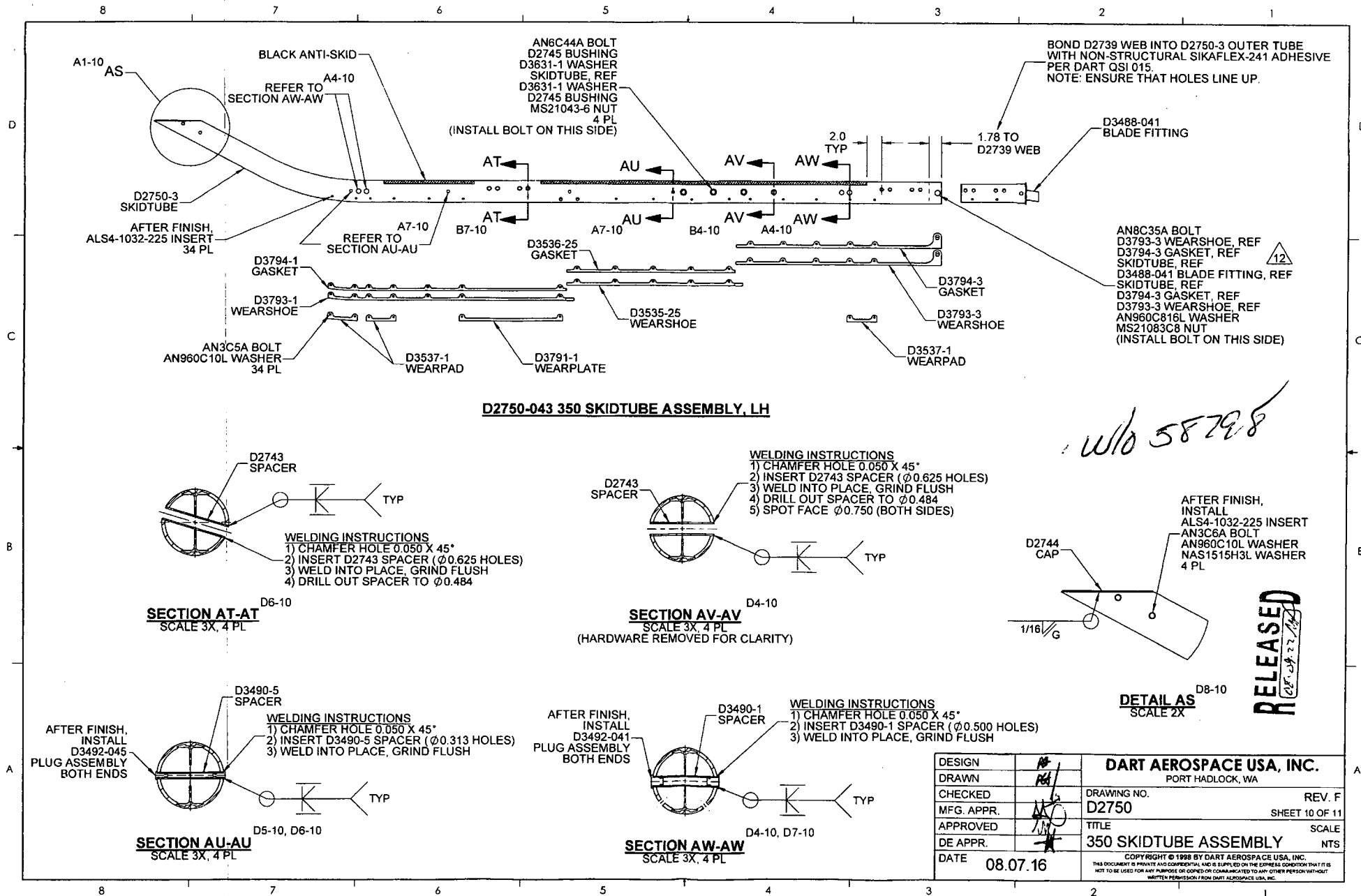
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

A1-11

BA

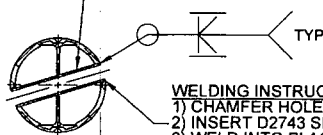
BLACK ANTI-SKID

REFER TO
SECTION BE-BEAN6C44A BOLT
D2745 BUSHING
D3631-1 WASHER
SKIDTUBE, REF
D3631-1 WASHER
D2745 BUSHING
MS21043-6 NUT
4 PL
(INSTALL NUT ON THIS SIDE)

(INSTALL NUT ON THIS SIDE)

2.0
TYPBOND D2739 WEB INTO D2750-4 OUTER TUBE
WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE
PER DART QSI 015.
NOTE: ENSURE THAT HOLES LINE UP.D3488-042
BLADE FITTINGD2750-4
SKIDTUBEAFTER FINISH,
ALS4-1032-225 INSERT
34 PLREFER TO
SECTION BC-BCD3794-1
GASKETD3793-1
WEARSHOEAN3C5A BOLT
AN960C10L WASHER
34 PLD3537-1
WEARPADD3791-1
WEARPLATED3536-25
GASKET

A7-11

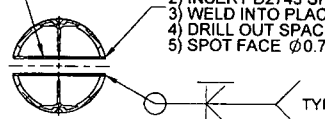
D3535-25
WEARSHOED3537-1
WEARPADD3794-3
GASKETD3793-3
WEARSHOEAN8C35A BOLT
D3793-3 WEARSHOE, REF
D3794-3 GASKET, REF
SKIDTUBE, REF
D3488-042 BLADE FITTING, REF
SKIDTUBE, REF
D3794-3 GASKET, REF
D3793-3 WEARSHOE, REF
AN960C816L WASHER
MS21083C8 NUT
(INSTALL NUT ON THIS SIDE)**D2750-044 350 SKIDTUBE ASSEMBLY, RH**D2743
SPACER

WELDING INSTRUCTIONS

- 1) CHAMFER HOLE 0.050 X 45°
- 2) INSERT D2743 SPACER (Ø0.625 HOLES)
- 3) WELD INTO PLACE, GRIND FLUSH
- 4) DRILL OUT SPACER TO Ø0.484

SECTION BB-BB
SCALE 3X, 4 PL

D6-11

D2743
SPACER

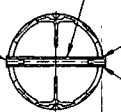
WELDING INSTRUCTIONS

- 1) CHAMFER HOLE 0.050 X 45°
- 2) INSERT D2743 SPACER (Ø0.625 HOLES)
- 3) WELD INTO PLACE, GRIND FLUSH
- 4) DRILL OUT SPACER TO Ø0.484
- 5) SPOT FACE Ø0.750 (BOTH SIDES)

SECTION BD-BD
SCALE 3X, 4 PL

(HARDWARE REMOVED FOR CLARITY)

D4-11

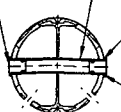
D3490-5
SPACERAFTER FINISH,
INSTALL
D3492-045
PLUG ASSEMBLY
BOTH ENDS

WELDING INSTRUCTIONS

- 1) CHAMFER HOLE 0.050 X 45°
- 2) INSERT D3490-5 SPACER (Ø0.313 HOLES)
- 3) WELD INTO PLACE, GRIND FLUSH

SECTION BC-BC
SCALE 3X, 4 PL

D5-11, C6-11

AFTER FINISH,
INSTALL
D3492-041
PLUG ASSEMBLY
BOTH ENDSD3490-1
SPACER

WELDING INSTRUCTIONS

- 1) CHAMFER HOLE 0.050 X 45°
- 2) INSERT D3490-1 SPACER (Ø0.500 HOLES)
- 3) WELD INTO PLACE, GRIND FLUSH

SECTION BE-BE
SCALE 3X, 4 PL

D4-11, D7-11

D2744
CAP

1/16" G

AFTER FINISH,
INSTALL
ALS4-1032-225 IN SERT
AN3C6A BOLT
AN960C10L WASHER
NAS1515H3L WASHER
4 PL**DETAIL BA**
SCALE 2X

D8-11

DESIGN	<i>MS</i>	DART AEROSPACE USA, INC.	
DRAWN	<i>MS</i>	PORT HADLOCK, WA	
CHECKED	<i>MS</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>MS</i>	D2750	SHEET 11 OF 11
APPROVED	<i>MS</i>	TITLE	SCALE
DE APPR.	<i>MS</i>	350 SKIDTUBE ASSEMBLY	NTS
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W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 229

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Ell. att
Job number: 58103
Part number: D350-636-012
Description: 350 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier P. D. J. Date of Test Coupon 10.04.27

Welder Barclay Ell. att Date of Test Coupon 10-04-27

The above named individual is qualified in accordance with AWS D17.1.2001 to weld